



CUSTOMER NUMBER 27792

**INFORMATION DISCLOSURE STATEMENT LISTING SHEET**

Information Cited By Applicant(s) That May Be Material To  
The Prosecution Of The Subject Application

Applicant: Andrew Wilson Attorney Docket No. MICR0482  
Serial No.: 10/814,577 Group Art Unit: ~~2127~~ 2876  
Filed: March 31, 2004 Examiner: Kristy A. Haupt  
Title: IDENTIFICATION OF OBJECT ON INTERACTIVE DISPLAY SURFACE  
BY IDENTIFYING CODED PATTERN

**U.S. PATENT DOCUMENTS**

*Examiner Initial	ID	Document No.	Date	Name	Class	Sub- Class
KH	US1	4,992,650	02/12/1991	Somerville	235	462

**FOREIGN PATENT DOCUMENTS**

NONE CITED

**OTHER INFORMATION**

*Examiner Initial	Document No.	Document Information
KH	O1	"3.6 Interpolation in Two or More Dimensions." Numerical Recipes in C: The Art of Scientific Computing. Chapter 3. Interpolation and Extrapolation. © 1988-1992, Cambridge University Press. Numerical Recipes Software. pp. 123-128.
KH	O2	"Bar Code 1, 2-Dimensional Bar Code Page." Available <a href="http://www.adams1.com/pub/russadam/stack.html">http://www.adams1.com/pub/russadam/stack.html</a> . Printed 01/20/2004. 14pp.
KH	O3	Ambiente article. "InteracTable®." Dated 07-Jul-2k. Available <a href="http://www.darmstadt.gmd.de/ambiente/activities/interactable.html">http://www.darmstadt.gmd.de/ambiente/activities/interactable.html</a> . Printed 11/21/2003. 3pp.
KH	O4	Bier, Stone, Pier, Buston, and DeRose. "Toolglass and Magic Lenses: The See-Through Interface." <i>Proceedings of Siggraph '93</i> (Anaheim, August). <i>Computer Graphics Annual Conference Series</i> , ACM, 1993, pages 73-80. 8pp.
KH	O5	Blickenstorfer, Conrad H. "First Look: Acer TravelMate TM100 with Windows XP Tablet PC Edition." <i>Pen Computing Magazine</i> . July 2002. pp. 44-47.
KH	O6	"DiamondSpin - Begs for Direct Manipulation Technology Is it the Pen? Sony Leaps Out-of-the-Box Again with Gummi." <i>Mitsubishi/DiamondSpin. CHI 2004 #3</i> . Printed 4/30/2004. 5pp.

## OTHER INFORMATION

<u>*Examiner Initial</u>	<u>Document No.</u>	<u>Document Information</u>
KH	O7	Dietz and Leigh. "DiamondTouch: A Multi-User Touch Technology." <i>UIST '01</i> Orlando FLA. © ACM 2001 1-58113-438-x/01/11. CHI Letters 3 (2). November 11-14, 2001. pp. 219-226.
	O8	Electronic Check Alliance Processing, Inc. "Gift Cards, How Stored Value Card Systems Work." Available. <a href="http://www.electron-cap.com/GiftCards.htm">http://www.electron-cap.com/GiftCards.htm</a> . Printed 1/20/2004 and 05/16/2004. ©2003. 2pp. total (3pp printed).
	O9	Fukuchi and Rekimoto. "Interaction Techniques for SmartSkin." <i>ACM UIST2002 demonstration</i> , 2002. 2pp.
	O10	Grabowski, Robert. "A Miniature Video Laser Range Finder for Small Robots." Available <a href="http://www.andrew.cmu.edu/~rjg/research/research_hardware/laser_rangefinder.html">http://www.andrew.cmu.edu/~rjg/research/research_hardware/laser_rangefinder.html</a> . Printed 5/16/2004. 8pp.
	O11	Grant and Winograd. "Flexible, Collaborative Organization on a Tabletop." <i>ACM CSCW 2002: Workshop on Co-located Tabletop Collaboration: Technologies and Directions</i> . New Orleans, LA. November 2002. pp. 1-4.
	O12	Horn, Berthold K. P. "Robot Vision." The MIT Press. Available <a href="http://mitpress.mit.edu/catalog/item/default.asp?type=2&amp;tid=8388">http://mitpress.mit.edu/catalog/item/default.asp?type=2&amp;tid=8388</a> . Printed 12/17/2003. 6pp. total.
	O13	Horn, Berthold Klaus Paul. "Robot Vision." Binary Images: Topological Properties. The MIT Electrical Engineering and Computer Science Series. 1986. pp. 66-71 and cover page(s).
	O14	Hunter, Andrew. "Connected Components Analysis (Computer Vision)." <a href="http://www.google.com">www.google.com</a> search results <a href="http://www.google.com/search?sourceid=navclient&amp;q=connected+component+ellipse">http://www.google.com/search?sourceid=navclient&amp;q=connected+component+ellipse</a> . Printed 3/7/2004. Article dated 09/24/2002. 2pp search results, 21pp article.
	O15	"IR Distance Sensor." Available <a href="http://www.divelectronics.com/Accessories/IRDS.html">http://www.divelectronics.com/Accessories/IRDS.html</a> (2pp) and <a href="http://www.divelectronics.com/Accessories/GP2D05.html">http://www.divelectronics.com/Accessories/GP2D05.html</a> (1pg). Printed 12/30/2003. 3pp.
	O16	Ishii and Ullmer. "Tangible Bits: Towards Seamless Interfaces between People, Bits and Atoms." <i>Proceedings of CHI '97</i> , March 22-27, 1997, Atlanta, Georgia. © 1997 ACM 0-89791-802-9/97/03. pp. 1-8.
	O17	Ishii, Wisneski, Orbanes, Chun, and Paradiso. "PingPongPlus: Design of an Athletic-Tangible Interface for Computer-Supported Cooperative Play." <i>Proceeding of CHI '99</i> , May 15-20, 1999, © 1999 ACM. pp. 1-8.
	O18	Johanson, Kolodny, and Russell. "A Hand pose and Position Tracker for the Interactive Table." CS223B Final Project. Available <a href="http://graphics.stanford.edu/~drussel/vision/tracker-report.html">http://graphics.stanford.edu/~drussel/vision/tracker-report.html</a> . Printed 12/16/2003, 6pp.
	O19	Ju, Hurwitz, Judd, and Lee. "CounterActive: An Interactive Cookbook for the Kitchen Counter." <i>Extended Abstracts of CHI 2001</i> , Seattle. April 2001. pp. 269-270.
	O20	Kang, Sing Bing. "Radial Distortion Snakes." <i>LAPR Workshop on Machine Vision Applications (MVA2000)</i> , Tokyo, Japan. November 2000. pp. 603-606.
	O21	Kato, Billinghurst, Poupyrev, Imamoto, and Tachibana. "Virtual Object Manipulation on a Table-Top AR Environment." <i>IEEE and ACM Int'l Symposium on Augmented Reality 2000, ISAR 2000, October 5-6, 2000, Munich</i> . 9pp.
	O22	Klemmer, Newman, and Sapien. "The Designer's Outpost: A Task-Centered Tangible Interface for Web Site Information Design." <i>Proceedings of Human Factors in Computing Systems: CHI 2000 Extended Abstracts</i> . The Hague, The Netherlands. April 1-6, 2000. pp. 333-334.
	O23	Klemmer, Newman, Farrell, Bilezikjian, and Landay. "The Designers' Outpost: A Tangible Interface for Collaborative Web Site Design." <i>CHI Letters, The 14<sup>th</sup> Annual ACM Symposium on User Interface Soft Technology: UIST 2001</i> . 3(2). pp. 1-10.
	O24	Kobayashi, Hirano, Narita, and Ishii. "A Tangible Interface for IP Network Simulation." <i>CHI 2003</i> , April 5-10, 2003, Ft. Lauderdale, FL. ACM 1-58113-630-7/03/0004. 2pp.
KH	O25	Koike, Sato, and Kobayashi. "Integrating Paper and Digital Information on EnhancedDesk: A Method for Realtime Finger Tracking on an Augmented Desk System." <i>ACM Transaction on Computer-Human Interaction</i> , Vol. 8 No. 4, December 2001. © 2001 ACM 1073-0516/01/1200-0307. pp. 307-322.

## OTHER INFORMATION

*Examiner Initial	Document No.	Document Information
KH	O26	Leibe, Stamer, Ribarsky, Wartell, Krum, Singletary, and Hodges. "The Perceptive workbench: Toward Spontaneous and Natural Interaction In Semi-Immersive Virtual Environments." <i>Proceedings of the IEEE Virtual Reality 2000 Conference</i> , March 18-22, 2000. New Brunswick, New Jersey: IEEE Computer Society, 2000. 8pp.
	O27	Leigh and Dietz. "DiamondTouch Characteristics and Capabilities." Mitsubishi Electric Research Laboratories, Cambridge, Massachusetts, USA. Undated. 2pp.
	O28	Magerkurth, Stenzel, and Prante. "STARS - A Ubiquitous Computing Platform for Computer Augmented Tabletop Games." <i>5<sup>th</sup> International Conference on Ubiquitous Computing (Ubicomp '03)</i> , October 12-15, 2003, Seattle, Washington. 2pp.
	O29	Malandain, Grégoire. "Connected Components Extraction." Available <a href="http://www-sop.inria.fr/epidaure/personnel/malandain/segment/connexe.html">http://www-sop.inria.fr/epidaure/personnel/malandain/segment/connexe.html</a> . Printed 12/18/2003. 3pp.
	O30	Matsushita and Rekimoto. "HoloWall: Designing a Finger, Hand, Body, and Object Sensitive Wall." <i>UIST '97</i> Banff, Alberta, Canada. © 1997 ACM 0-89791-881-9/97/10. pp. 209-210.
	O31	Missouri Department Of Revenue. "2D Barcode Technology." Undated. 3pp.
	O32	Moran, Saund, van Melle, Gujar, Fishkin, and Harrison. "Design and Technology for Collaborative; Collaborative Collages of Information on Physical Walls." <i>UIST '99</i> . Asheville, NC. © 1999 ACM 1-58113-075-9/99/11, CHI Letters vol 1, 1. pp. 197-206.
	O33	Pangaro, Maynes-Aminzade, and Ishii. "The Actuated Workbench: Computer-Controlled Actuation in Tabletop Tangible Interfaces." <i>Proceedings of UIST 2002</i> , October 27-30, 2002. © 2002 ACM. 10pp.
	O34	Paradiso, Hsiao, Strickon, Lifton, and Adler. "Sensor systems for interactive surfaces." <i>IBM Systems Journal</i> , Vol. 39, Nos. 3&4, 2000. pp. 892-914.
	O35	Patten, Ishii, Hines, and Pangaro. "Senseable: A Wireless Object Tracking Platform for Tangible User Interfaces." <i>Proceedings of CHI 2001</i> , March 31-April 5, 2001, ACM Press, © 2001 ACM. 8pp.
	O36	Patten, Recht, and Ishii. "Audiopad: A Tag-based Interface for Musical Performance." <i>Proceedings of Conference on New Interface for Musical Expression (NIME '02)</i> . Dublin, Ireland, May 24-26, 2002. 6pp.
	O37	Ramos and Balakrishnan. "Fluid Interaction Techniques for the Control and Annotation of Digital Video." <i>UIST '03</i> Vancouver, B.C., Canada. © 2003 ACM 1-58113-636-06/03/0010. pp. 105-114.
	O38	Rekimoto and Ayatsuka. "CyberCode: Designing Augmented Reality Environments with Visual Tags." <i>Proc. of UIST 2000</i> , 2000. 10pp.
	O39	Rekimoto and Matsushita. "Perceptual Surfaces: Towards a Human and Object Sensitive Interactive Display." <i>Proceedings of Workshop on Perceptual User Interfaces (PUI'97)</i> , 1997. 3pp.
	O40	Rekimoto and Nagao. "The World through the Computer: Computer Augmented Interaction with Real World Environments." <i>Proceedings of UIST '95</i> , 1995. pp. 29-36.
	O41	Rekimoto and Saitoh. "Augmented Surfaces: A Spatially Continuous Work Space for Hybrid Computing Environments." <i>CHI '99</i> , 15-20 May 1999. Pittsburgh, Pennsylvania. © ACM 1999 0-201-48559-1/99/05. pp. 378-385.
	O42	Rekimoto, Jun. "Matrix: A Realtime Object Identification and Registration Method for Augmented Reality." <i>Proc. of Asia Pacific Computer Human Interaction (APCHI '98)</i> , 1998. 6pp.
	O43	Rekimoto, Jun. "Multiple-Computer User Interfaces: 'Beyond the Desktop' Direct Manipulation Environments." <i>ACI CHI2000 Video Proceedings</i> , 2000. 2pp.
KH	O44	Rekimoto, Jun. "Pick-and-Drop: A Direct Manipulation Technique for Multiple Computer Environments." <i>Proceedings of UIST'97</i> , 1997. pp. 31-39.

## OTHER INFORMATION

*Examiner Initial	Document No.	Document Information
KH	O45	Rekimoto, Jun. "SmartSkin: An Infrastructure for Freehand Manipulation on Interactive Surfaces." <i>CHI 2002</i> , April 20-25, 2002, Minneapolis, Minnesota. © 2001 ACM 1-58113-453-3/02/0004. 8pp.
	O46	Rekimoto, Ullmer, and Oba. "DataTiles: A Modular Platform for Mixed Physical and Graphical Interactions." <i>SIGCHI'01</i> , March 31-April 4, 2001, Seattle, WA. © 2001 ACM 1-58113-327-8/01/0003. 8pp.
	O47	Reznik, Canny, and Alldrin. "Leaving on a Plane Jet." <i>2001 Int. Conf. on Intell. Robots &amp; Systems (IROS)</i> , Maui, Hawaii, October 2001. 6pp.
	O48	Ringel, Gerh, Jin, and Winograd. "Barehands: Implement-Free Interaction with a Wall-Mounted Display." Short Talks. <i>CHI 2001</i> 31 March - 5 April. Pp. 367-368.
	O49	Rosenfeld, Zawadzki, Sudol, and Perlin. "Planar Manipulator Display." New York University mrl. NYU Media Research Lab. Available <a href="http://cat.nyu.edu/PMD">http://cat.nyu.edu/PMD</a> . Printed 5/16/2004. 3pp.
	O50	Rovani, David (Posted by). "My Second Month with the Compaq Tablet." <i>Home&gt;Reviews, TablePCHome.com - Table PC user community</i> . Posted 4/10/2003. Available <a href="http://www.tabletpchome.com/Messages.aspx?ThreadID=140">http://www.tabletpchome.com/Messages.aspx?ThreadID=140</a> . Printed 12/30/2003. pp. 1-2 of 5.
	O51	Schmalstieg, Encarnação, and Szalavári. "Using Transparent Props for Interaction With The Virtual Table." Presented at <i>1999 ACM Symposium on Interactive 3D Graphics (I3DG '99)</i> . April 26-28, 1999, Atlanta, GA. 7pp.
	O52	Scott, Grant, and Mandryk. "System Guidelines for Co-located collaborative Work on a Tabletop Display." <i>Proceedings of ECSCW'03, European Conference Computer-Supported Cooperative Work 2003</i> , Helsinki, Finland, September 14-18, 2003. 20pp.
	O53	Shen, Everitt, and Ryall. "UbiTable: Impromptu Face-to-Face Collaboration on Horizontal Interactive Surfaces." © Mitsubishi Electric Research Laboratories, Inc., 2003. Cambridge, Massachusetts. TR-2003-49. September 2003. 10pp.
	O54	Shen, Lesh, and Vernier. "Personal Digital Historian: Story Sharing Around the Table." <i>Interactions</i> . March + April 2003. pp. 15-22.
	O55	Shen, Lesh, Bernier, Forlines, and Frost. "Sharing and Building Digital Group Histories." <i>CSCW'02</i> , November 16-20, 2002, New Orleans, Louisiana. © 2002 ACM 1-58113-560-2/02/0011. 10pp.
	O56	Shen, Lesh, Moghaddam, Beardsley, and Bardsley. "Personal Digital Historian: User Interface Design." © Mitsubishi Electric Research Laboratories, Inc. 2001. Cambridge, Massachusetts. 5pp.
	O57	Shen, Vernier, Forline, and Ringel. "DiamondSpin: An Extensible Toolkit for Around-the-Table Interaction." <i>CHI 2004</i> , April 24-29, 2004, Vienna, Austria. © 2004 ACM 1-58113-702-8/04/0004. 8pp.
	O58	SMART Technologies Inc. White Paper. "DVIT Digital Vision Touch Technology." February 2003. 10pp.
	O59	Smart Technologies, Inc. "Rear Projection SMART Board™ Interactive Whiteboard" "SMART Board Software". Available <a href="http://www.smarttech.com/Products/rearprojection/index.asp">http://www.smarttech.com/Products/rearprojection/index.asp</a> and <a href="http://www.smarttech.com/Products/sbsoftware/index.asp">http://www.smarttech.com/Products/sbsoftware/index.asp</a> . Printed 12/16/2003. 5pp. total.
	O60	Stamer, Leibe, Singletary, Lyons, Gandy, and Pair. "Towards Augmented Reality Gaming." Available <a href="http://www.gvu.gatech.edu/ccg/publications/imagina2000/">http://www.gvu.gatech.edu/ccg/publications/imagina2000/</a> . Printed 12/30/2003. 27pp.
	O61	Streitz, Geißler, Holmer, Konomi, Müller-Tomfelde, Reischl, Rexrogh, Seitz, and Steinmetz. "i-LAND: An interactive Landscape for Creativity and Innovation." <i>Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '99)</i> , Pittsburgh, Pennsylvania, May 15-20, 1999. ACM Press, New York. Pp. 120-127.
	O62	Symanzik, Jürgen. "Three-Dimensional Statistical Graphics Based On Interactively Animated Anaglyphs." Published 1993. Available <a href="http://citeseer.nj.nec.com/95667.html">http://citeseer.nj.nec.com/95667.html</a> . Printed 2/25/2004. 7pp. total.
KH	O63	"The Tablet PC A detailed look at Microsoft's proposed Tablet PC." <i>Pen Computing Magazine: Tablet PC</i> . Available <a href="http://www.pencomputing.com/frames/textblock_tablet_pc.html">http://www.pencomputing.com/frames/textblock_tablet_pc.html</a> . Printed 12/30/2003. pp. 1

## OTHER INFORMATION

*Examiner Initial	Document No.	Document Information
KH	O64	Tandler, Prante, Müller-Tomfelde, Streitz, and Steinmetz. "ConnecTables: Dynamic Coupling of Displays for the Flexible Creation of Shared Workspaces." <i>Proceedings of the 14. Annual ACM Symposium on User Interface Software and Technoic (USIT'01)</i> , ACM Press (CHI Letters 3 (2)), 2001, pp. 11-20 (10pp).
	O65	Ullmer and Ishii. "The metaDESK: Models and Prototypes for Tangible User Interfaces." <i>Proceedings of UIST'97</i> , October 14-17, 1997. © 1997 ACM - ACM 0-89791-881-9/97/10. 10pp.
	O66	Ullmer, Ishii, and Glas. "mediaBlocks: Physical Containers, Transports, and Controls for Online Media." <i>Computer Graphics Proceedings (SIGGRAPH'98)</i> , July 19-24, 1998, © 1998 ACM. ACM-0-89791-999-8-8/98/007. 8pp.
	O67	Ullmer, Ishii, and Jacob. "Tangible query Interfaces: Physically Constrained Tokens for Manipulating Database Queries." <i>Proc. INTERACT 2003 Conference</i> , 2003. 11pp.
	O68	Underkoffler and Ishii. "Illuminating Light: An Optical Design Tool with a Luminous-Tangible Interface." <i>Proceeding of CHI '98</i> , April 18-23, 1998, © 1998 ACM. pp. 1-8.
	O69	Underkoffler and Ishii. "Urp: A Luminous-Tangible Workbench for Urban Planning and Design." <i>Proceedings of CHI '99</i> , May 15-20, 1999. © 1998 ACM. pp. 1-8.
	O70	Underkoffler, Ullmer, and Ishii. "Emancipated Pixels: Real-World Graphics in the Luminous Room." <i>Proceedings of SIGGRAPH '99</i> , August 8-13, 1999, © 1999 ACM. 8pp.
	O71	Vernier, Lesh, and Shen. "Visualization Techniques for Circular Tabletop Interfaces." To appear in <i>Advanced Visual Interfaces</i> , May 2002, Trento, Italy. © 2002 Mitsubishi Electric Research Laboratories, Inc. MERL-TR2002-01. Authored March 2002. 10pp.
	O72	Viola and Jones. "Robust Real-time Object Detection." Cambridge Research Laboratory, Technical Report Series. Compaq. CRL 2001/01, February 2001. 30pp.
	O73	"VIRTUALBOARD." Available <a href="http://visilab.unime.it/visilab/virtualboard.htm">http://visilab.unime.it/visilab/virtualboard.htm</a> . Printed 12/16/2003. 6pp.
	O74	Von Hardenberg and Bérard. Bare-Hand Human-Computer Interaction." <i>PUI 2001</i> Orlando, FL, ©2001 ACM 1-58113-448-7-11/14/01. 8pp.
	O75	Wellner, Pierre. "Interacting with Paper on the DigitalDesk." <i>Communications of the ACM</i> . July 1993. EuroPARC tech report EPC-93-195. 17pp.
	O76	Whalen, Tara. "Playing well with Others: Applying Board Game Design to Tabletop Display Interfaces." <i>UIST 2003</i> . Vancouver, November 2-5, 2003, 3pp.
KH	O77	Wu and Balakrishnan. "Multi-Finger and Whole Hand Gestural Interaction Techniques for Multi-User Tabletop Displays." <i>UIST '03</i> , Vancouver, B.C., Canada. © 2003 ACM 1-58113-636-6/03/0010. pp. 193-202.

/Kristy Haupt/

10/13/2006

Examiner's Signature

Date

\*Examiner: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

RMA:klp  
9/22/04